ChatDB – Taking to Database Management Systems using Natural Language Midterm Progress Report

I. Team Details

Members:

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II. Implementation Questions

- Tech Stack Used pymysql, mysql-connector-python, firebase-admin, pymongo, ollama
- Query Syntax Implementation Plan
 We will utilize Llama 2 to convert natural language to database queries.
- 3. Database Selection

o SQL: MySQL

NoSQL: Firebase, MongoDB

III. Planned Implementation

So far, there are no deviations from the original proposal. We remain implementing Llama 2 to transform natural language into database queries, focusing on MySQL, Firebase, and MongoDB.

IV. Project Status

We have successfully tested the feasibility of converting natural language to MySQL queries using the Llama 2 model on simple queries. For example, converting "Find the names of all employees who earn more than \$50,000" to "SELECT name FROM employees WHERE salary > 50000;".

For the next steps, we plan to extend natural language conversion to support Firebase and MongoDB and ensure our model supports all common constructs in both SQL and NoSQL databases. Following on, we will develop the web-based UI platform allowing users to interact with ChatDB.

V. Challenges Faced

We have encountered problems when downloading the Llama 2 model. We kept getting 403 forbidden errors when running the sh download.sh command. Instead of following the instructions on Meta Llama official website, we utilize ollama to download and run the Llama 2 model.

VI. Timeline

Month	February			March			April			May
Tasks										
Project Proposal	2/7									
Research for LLM API Options										
- Research for MongoDB										
-MySQL										
Midterm Report				3/7						
- NoSQL database Implementation										
- Web-browser based Design										
- Real World Dataset										
- Testing and Debugging										
Project Demo and Implementation									4/21	
Final Report										5/9